Lessons from the project
“A European Tracking System for Electricity”
(E-TRACK)

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Point of departure (1/2)

Several EU and MS policies require to account for certain “attributes” of electricity (generation)
- Electricity disclosure / labelling
- EU targets for market shares of certain fuel sources and technologies (e.g. RES-E)
- Public support schemes, e.g. for RES-E and CHP
- Differentiated electricity tax (based on e.g. fuel source)
- Guarantees of Origin (GO) for RES-E and CHP
- Green Power for voluntary demand
- Statistical reporting on power generation and demand
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Point of departure (2/2)

- Such “attributes”, which need to be accounted for, include
  - Fuel sources
  - Generation technologies (e.g. CHP)
  - CO₂ emissions and radioactive waste production
  - Public support granted for generation
  - Accounting of RES-E generation for the EU target
- Some of these attributes need to be “tracked” from generation to the final supplier or consumer
- The regular electricity market does not support such tracking
Tracking of electricity attributes (1/3)
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Tracking of electricity attributes (2/3)

Definition of tracking:

- Create unambiguous links between power plants and electricity sold to final consumers
- Transfer information about power generation attributes to consumers or other parties (e.g. regulators, governments)
Tracking of electricity attributes (3/3)

“Explicit” vs. “implicit” tracking mechanisms:

- **Explicit tracking:**
  Tracking based on a mechanism, which creates a link between generation and consumption
  Options for “explicit” tracking:
  - Tracking of physical energy flows
  - Contract-based tracking
  - De-linked tracking (based on transferable certificates)

- **Implicit tracking:**
  Tracking using statistical data or averages
  e.g. UCTE/Nordel generation mix, national generation mix, individual company generation mixes
What is the problem?
Some examples

- **Double counting**, e.g.
  - RES-E generation in country A is allocated explicitly to consumers based on “green power” contracts. Other suppliers use national production statistics for disclosure, which are not corrected by the direct green sales.
  - Country B exports most of its RES-E generation to customers in other countries. Other countries import “grey” power from country B, and use the national production statistics as the attributes for this import.

- **Unclear interaction with support systems**
  - Country C uses a feed-in support scheme, but does not specify who owns the “greenness” of supported power.
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Project Objectives

Overall goal of the project
- To investigate the feasibility of a harmonised standard for tracking electricity generation attributes in Europe

Additional project objectives
- To cover all tracking requirements which are imposed by European and national policies (disclosure, guarantees of origin, support schemes, Green Power etc.)
- To facilitate cross-border trade of electricity and generation attributes
- To avoid multiple counting of electricity attributes (e.g. from renewable energy sources) and loss of information
- To simplify verification of tracking procedures
Some preliminary findings

- There should be clear rules for the allocation of electricity generation attributes (comprehensive & binding for all actors)
- These rules should be co-ordinated between European countries (at least EU + EEA)
  - More detailed harmonisation should follow the actual integration of electricity markets
- Contract vs. de-linked tracking is not the problem
  - Both types of explicit tracking possible, should be implemented based on a central registry
- Any tracking system should consist of two elements:
  - An explicit mechanism (for optional use)
  - A residual mix for implicit tracking, based on regional generation | ex-/imports | explicit tracking
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Example: Feed-in support & tracking

- Feed-in: Obligation on system operators to purchase RES-E and to pay a defined minimum price
- Who owns the greenness?
  - The one who pays in the end (usually ~all final customers)
  - The one who pays first (the system operator)
  - The generator (feed-in becomes a bonus payment)
- How is supported generation tracked to final consumer?
  - Separate allocation mechanism (e.g. EEG: pro-rata)
  - Use of a general explicit tracking mechanism
  - No tracking at all (part of national average)
- Outlook: At the time when RES-E becomes viable in the market, a well-developed tracking system can help generators to obtain fair prices for their green production!
E-TRACK project partners and duration

Project partners
Öko-Institut (coordinator) DE
Austrian Energy Agency AT
Energie-Control GmbH AT
Büro für Energiewirtschaft und technische Planung (BET) DE
Ademe FR
Observatoire des énergies renouvelables (ObservER) FR
IT Power GB
Pure Energi GB
Gestore dei Servizi Elettrici (GSE) IT
Lithuanian Energy Institute LT
Energy Research Centre of the Netherlands (ECN) NL

Project duration:
Jan 2005 until Jun 2007
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